

The Jisc logo is a white text 'Jisc' on an orange square background. The background of the entire slide is a photograph of a diverse group of people in a classroom or meeting setting. In the foreground, a man in a plaid shirt is typing on a laptop while a woman in a light blue shirt points at the screen. Other people are visible in the background, some looking at their phones. A decorative pattern of blue dots is overlaid on the bottom left of the image.

Jisc

# Navigating the opportunities and challenges of AI

Michael Webb

# Navigating the opportunities and challenges of AI

- **AI:** where are we today?
- **Challenges:** Assessment
- **Challenges:** meeting students needs and expectations
- **Opportunities:** saving staff time
- **Opportunities:** new teaching and learning opportunities
- **Looking forward**

# About Jisc

Jisc is the UK digital, data and technology agency focused on tertiary education, research and innovation.

We are a not-for-profit organisation and believe education and research improves lives and that technology improves education and research.

We provide managed and brokered products and services, enhanced with expertise and intelligence to provide sector leadership and enable digital transformation.



# About Jisc AI

**Aim:** to accelerate the adoption of artificial intelligence across the tertiary education sector in a responsible way.



Pilots



Information









Events



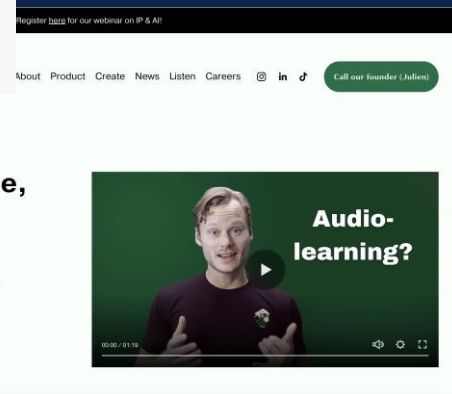
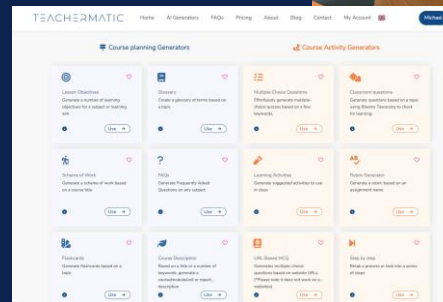
Community

ExploreAI > All Demos

 <p><b>Aspect-based Sentiment Analysis</b> Determine the sentiment attached to entities within the text.</p>	 <p><b>Automated Image Classification</b> Classify images with auto machine learning</p>	 <p><b>Content Moderation</b> Flag content issues in text such as hate, sexual, etc.</p>
 <p><b>Curriculum Generator</b> Uses AI to generate a course curriculum</p>	 <p><b>Emotion Detector</b> Automatically determine the emotions expressed within text.</p>	 <p><b>Essay Generator</b> In two stages allows you to generate an AI written essay</p>

# Experimenting and exploring: Our pilots...

- We run three a year with between five and 15 participants per pilot
- Identifying, piloting, evaluating AI applications
- Typical post-pilot route is via Jisc licensing team



# AI: Where are we today?

**Things have moved very quickly over the last 12 months...  
...and amazingly quickly over the last six months.**

# Nov 2022

## ChatGPT...



Hello, can you give me an overview of ChatGPT?



Hello! I'd be happy to provide you with an overview of ChatGPT.



ChatGPT is a language model developed by OpenAI, specifically from the GPT-3.5 family of models. It is designed to generate human-like text based on the given input and context. The model has been trained on a vast amount of data from the internet, allowing it to learn patterns, grammar, and semantics of natural language.

One of the notable features of ChatGPT is its ability to engage in conversational interactions. It can understand and respond to prompts, questions, or statements in a chat-like manner. By providing text inputs, users can have interactive conversations with the model.

ChatGPT's training process involves using Reinforcement Learning from Human Feedback (RLHF). Initially, human AI trainers provide conversations, playing both the user and the AI assistant, and they have access to model-generated suggestions. This dialogue dataset is mixed with the InstructGPT dataset, which is transformed into a dialogue format. The model is then fine-tuned using reward models generated by AI trainers ranking multiple model responses.

↻ Regenerate response


















However, it's important to note that ChatGPT has certain limitations. The model sometimes

Send a message.



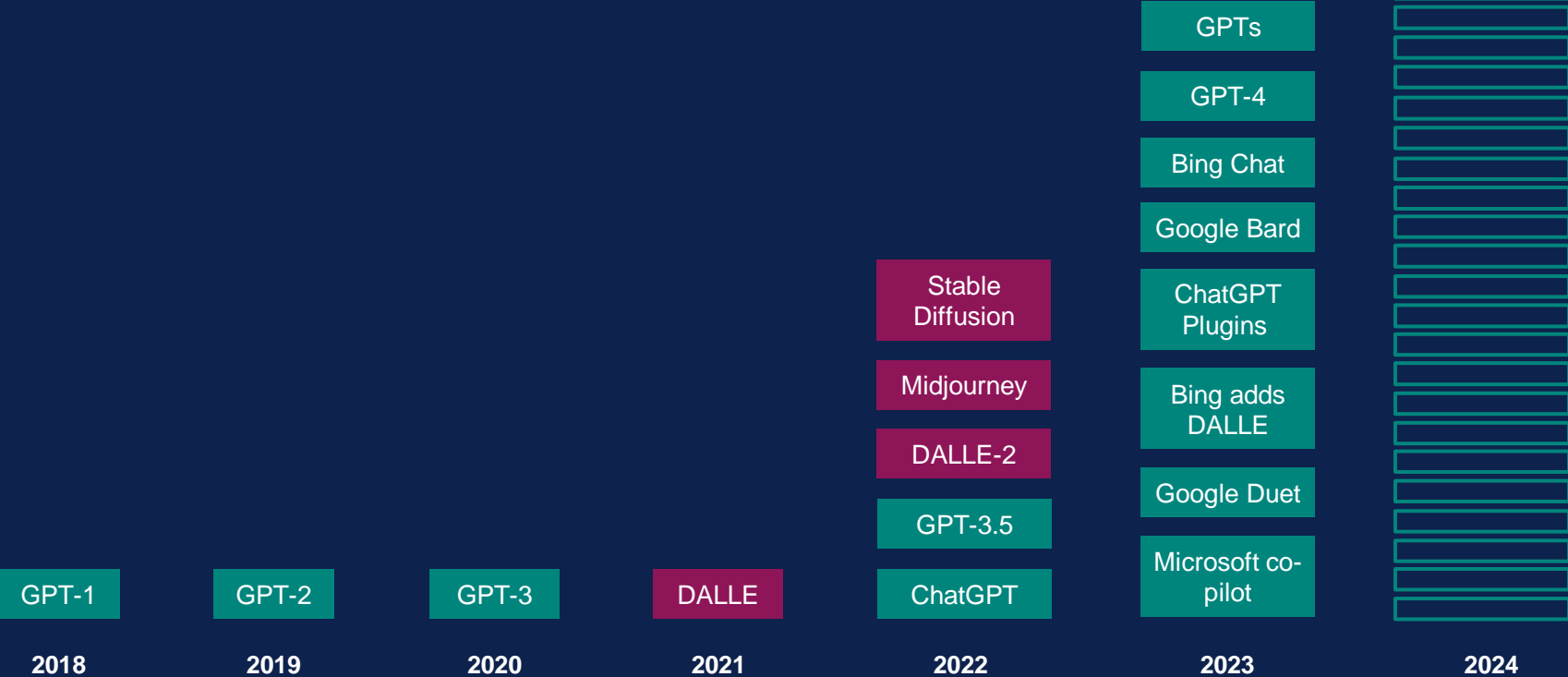


# Generative AI is more than ChatGPT...

Chat	Search	Images	Code	Writing	Content
				 Jasper	 Gamma
				 Writesonic	 conker
	 perplexity	stability.ai	 GitHub Copilot	 grammarly	 edpuzzle
Talk to Claude					

... and many, many more

# Timeline of key events



# AI and large language models are getting integrated into our everyday tools, e.g. Microsoft Copilot and Google Workspaces.

### Meet better with Teams Premium

Focus on what matters with AI-powered meetings, including GPT from OpenAI

MICROSOFT TEAMS

Learn more >

With a 252 percent increase in weekly time spent in meetings in the first two years of the pandemic, we needed to find ways to “work smarter, not harder.” Both the pace of work and the amount of information needed to sift through have grown exponentially, especially with meetings. There’s a ton of time-consuming administrative work during meetings, like taking notes, figuring out important takeaways, and capturing the right action items and owners.

That’s why Teams is infusing AI throughout the meeting experience, helping you be more productive in new ways. With **intelligent recap** in Teams premium, you’ll get automatically generated meeting notes, recommended tasks, and personalized highlights to help you get the information most important to you, even if you miss the meeting.

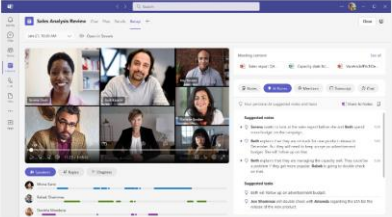
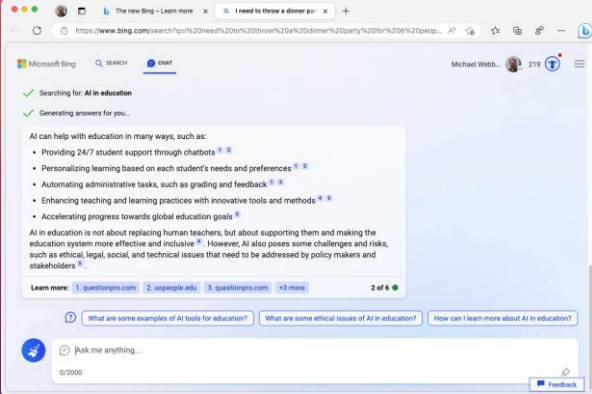


Figure 1. With intelligent recap, you'll have the information that's most important for you after a meeting, all in one place.



Microsoft Bing

Searching for: AI in education

Generating answers for you...

AI can help with education in many ways, such as:

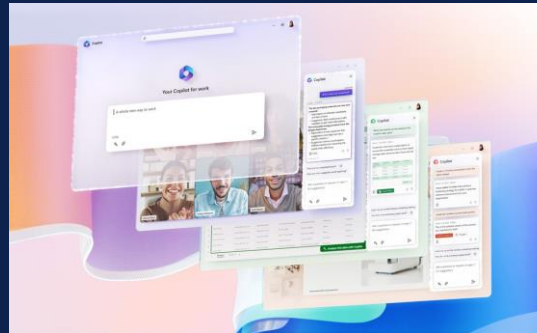
- Providing 24/7 student support through chatbots
- Personalizing learning based on each student's needs and preferences
- Automating administrative tasks, such as grading and feedback
- Enhancing teaching and learning practices with innovative tools and methods
- Accelerating progress towards global education goals

AI in education is not about replacing human teachers, but about supporting them and making the education system more effective and inclusive. However, AI also poses some challenges and risks, such as ethical, legal, social, and technical issues that need to be addressed by policy makers and stakeholders.


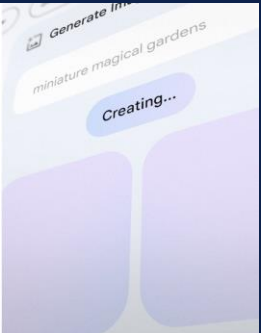
Learn more: 1. questionpro.com 2. uopeople.edu 3. questionpro.com +3 more 2 of 6

What are some examples of AI tools for education? What are some ethical issues of AI in education? How can I learn more about AI in education?

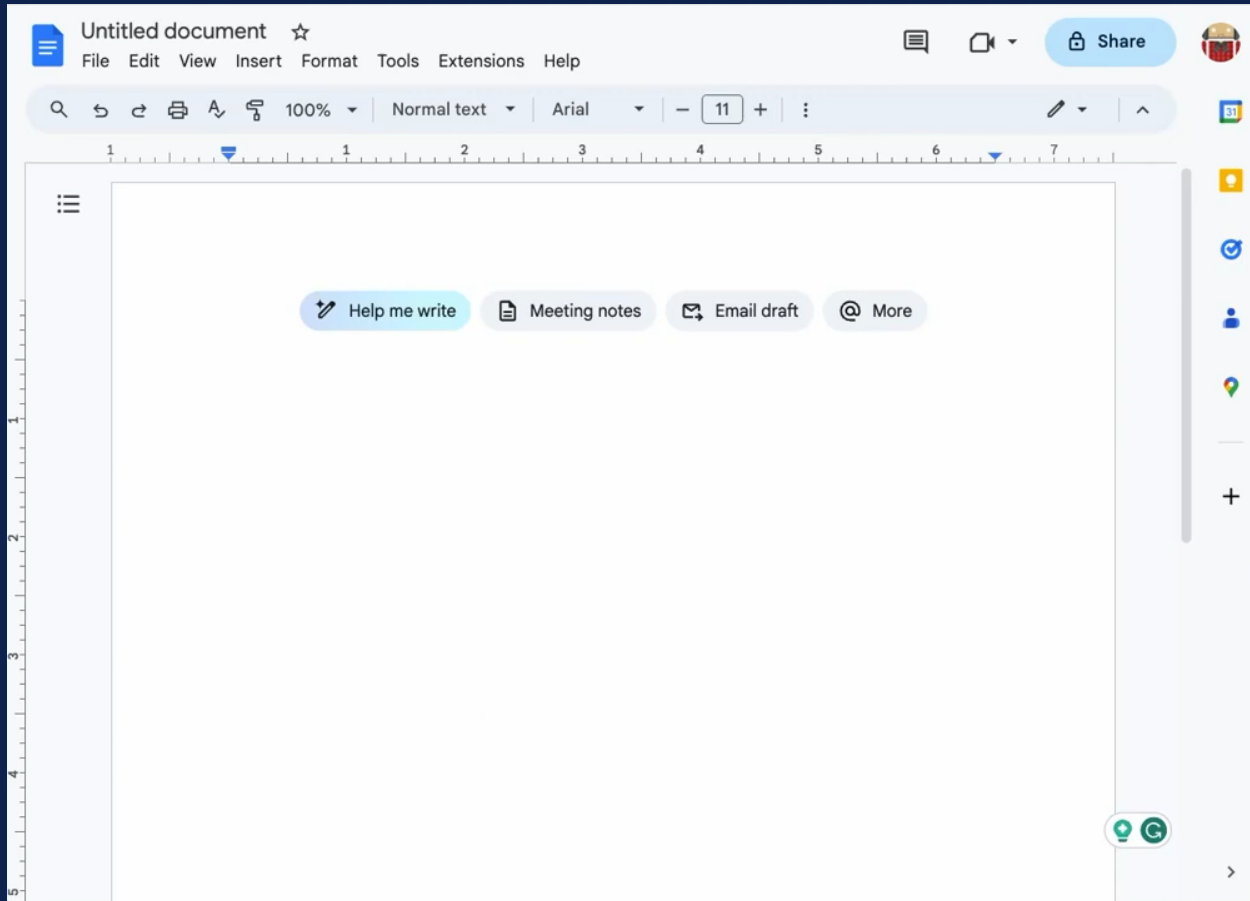
Ask me anything...



## A new era for AI and Google Workspace



# AI in Google Docs, released in June 2023...



📁 All gammas

Folders +

Organize your gammas by topic and share them with your team  
[Create or join a folder](#)













- 🔗 Templates
- 📁 Inspiration
- 🎨 Themes
- 🔠 Custom fonts
- 🗑️ Trash
- 👤 Invite to workspace
- 📄 120 credits
- 🗨️ Contact us

**PRO** Upgrade to Gamma Pro  
Unlock unlimited AI and remove Gamma branding  
[View Plans](#)

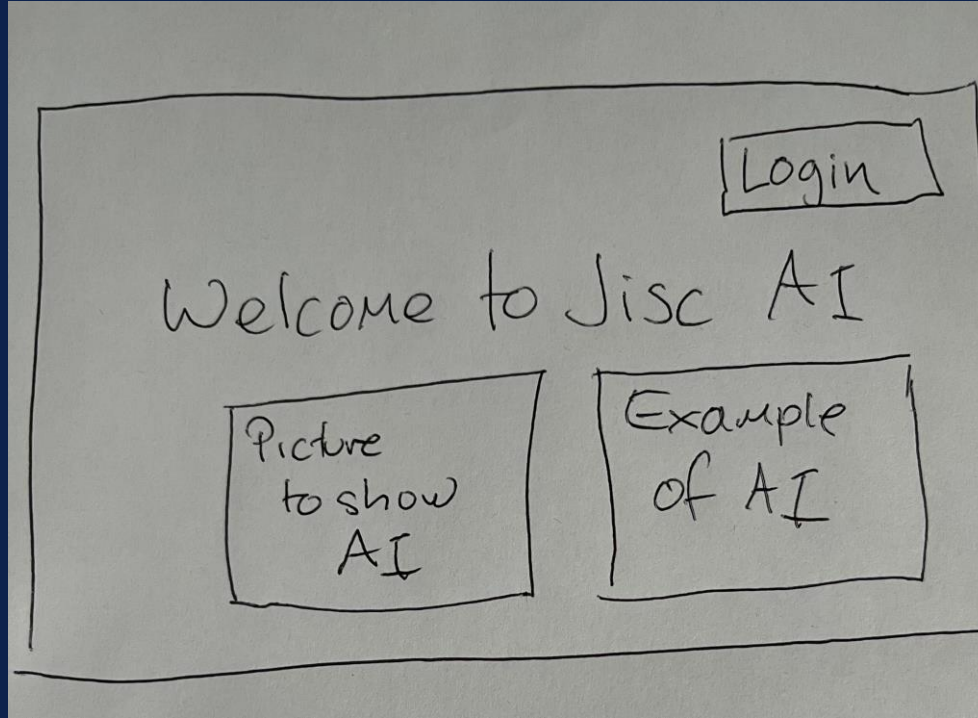
📁 All gammas

- + Create new AI
- + New from blank
- 📁 Import ▾

- 📁 All
- 🕒 Recently viewed
- 👤 Created by you
- ☆ Favorites
- 📏
- 🗃️ Grid
- ☰ List

 <p><b>Generative AI in Education: The Myths,...</b></p> <p>Created by you Last viewed 5 minute...</p>	 <p><b>Generative AI in Colleges: the myths, th...</b></p> <p>Created by you Last viewed 7 minute...</p>	 <p><b>Debunking Myths</b></p> <p>Created by you Last viewed 8 minute...</p>	 <p><b>Design of the Ultimate Paper Aeroplane using...</b></p> <p>Created by you Last viewed 3 months...</p>
 <p><b>AI in Education</b></p> <p>Created by you Last viewed 4 months...</p>	 <p><b>L'Intelligence Artificielle dans l'éducation</b></p> <p>Created by you Last viewed 5 months...</p>	 <p><b>Untitled</b></p> <p>Created by you Last viewed 5 months...</p>	 <p><b>L'IA dans l'éducation</b></p> <p>Created by you Last viewed 5 months...</p>
 <p><b>ChatGPT in Language Education</b></p> <p>Created by you Last viewed 5 months...</p>	 <p><b>AI in Education</b></p> <p>Created by you Last viewed 5 months...</p>	 <p><b>Untitled</b></p> <p>Created by you Last viewed 5 months...</p>	 <p><b>Untitled</b></p> <p>Created by you Last viewed 5 months...</p>

# Microsoft Copilot and ChatGPT can read pictures...





How can I help you today?

**Help me pick**

a gift for my dad who loves fishing

**Brainstorm edge cases**

for a function with birthdate as input, horoscope as o...

**Recommend a dish**

to bring to a potluck

**Plan a trip**

for a photography expedition in Iceland

A dark blue button with a white 'G' icon and the text 'Get citation'.



Message ChatGPT...



# Where are most organisations?

## Approaching and understanding

- Interested in AI
- Understanding how it has impacted or is transforming other sectors

## Experimenting and exploring

- Initial AI guidance produced.
- Experimentation and pilots within existing processes and with existing AI enabled tools.
- Data culture to support AI emerging
- Responsible AI processes established

## Operational

- Institutional AI principles established
- A systemic approach to staff AI skills and literacy
- Use of everyday AI institution wide.
- Task specific AI used for one or more processes across an organization eg chatbots for a specific purpose or adaptive learning systems

## Embedded

- AI embedded in strategy
- Data maturity allows AI to be considered for all new systems and processes
- Mature processes to manage the lifecycle of all AI products, including procurement and continuous monitoring

## Optimised /Transformed

- AI is supporting the delivery of learning that optimises opportunities and outcomes for all learners
- The right tasks are automated, freeing staff time for creativity and human interaction.

Data Maturity





# Approaches to regulating AI diverging globally



GOV.UK

Home > Business and industry > Science and innovation > Artificial intelligence > AI regulation: a pro-innovation approach

Department for Science, Innovation & Technology

Office for Artificial Intelligence

## Policy paper

# A pro-innovation approach to AI regulation

Updated 22 June 2023

Contents

- [Ministerial foreword](#)
- [Executive summary](#)
- [Part 1: Introduction](#)
- [Part 2: The current regulatory environment](#)
- [Part 3: An innovative and iterative approach](#)

Presented to Parliament by the Secretary of State for Science, Innovation and Technology by Command of His Majesty on 29 March 2023.

Command Paper Number: 815

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Among the technology rights of limit our opportuni services. These prod world, systems sup ineffective, or bias

the market and also throughout their lifecycle.

transparency requirements:

# Challenges: Assessment

# London school likely to scrap essay homework due to fears of ChatGPT manipulation

Artificial intelligence software risks making traditional essays redundant

Artificial intelligence [+ Add to myFT](#)

AI chatbot's MBA exam pass poses test for business schools

AI is killing off homework with one school ditching essays due to ChatGPT

Education ▶ Schools Teachers Universities Students

**Opinion**  
Artificial intelligence (AI)

## Now AI can write students' essays for them, will everyone become a cheat?

*Rob Reich*



Mon 28 Nov 2022 10:17 GMT

Teachers and parents can't detect this new form of plagiarism. Tech companies could step in - if they had the will to do so



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HOME WORLD UK COMPANIES TECH MARKETS CLIMATE OPINION WORK & CAREERS LIFE & ARTS HTSI

AI breakthrough ChatGPT raises alarm over student cheating

Artificial intelligence (AI)

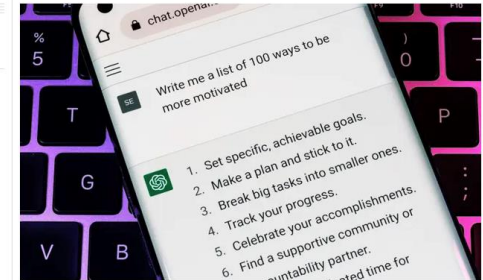
Lecturers urged to review assessments in UK amid concerns over new AI tool

ChatGPT is capable of producing high-quality essays with minimal human input

ChatGPT: what can the extraordinary artificial intelligence chatbot do?

Sally Weale *Education correspondent*

Fri 13 Jan 2023 16:23 GMT



ChatGPT has already triggered concerns about the potential for hard-to-detect plagiarism and questions about the validity of the essay as a future form of assessment. Photograph: Ascannio/Alamy

Lecturers at UK universities have been urged to review the way in which

# Is it possible to detect AI?

Sort of...

**No system today can conclusively prove text is written by AI.**

- Three main techniques (writing style, classifiers, watermarking)
- Each technique can be defeated
- Each technique will give false positive



## No watermark

Extremely efficient on average term lengths and word frequencies on synthetic, microamount text (as little as 25 words)

Very small and low-resource key/hash (e.g., 140 bits per key is sufficient for 99.99999999% of the Synthetic Internet)

## With watermark

- minimal marginal probability for a detection attempt.
- Good speech frequency and energy rate reduction.
- messages indiscernible to humans.
- easy for humans to verify.

# Tactics for assessment

Strategy	Approach	Challenges
Avoid	Revert to in-person exams where use of AI isn't possible	This moves away from authentic assessment and creates many logistical challenges
Outrun	Devise an assessment that AI can't do	AI is advancing rapidly and given the time between the assessment being set and it being taken, AI might well be able to do the assignment when it is taken
Adapt and Embrace	Embrace the use of AI, discuss appropriate use of AI with students, and actively encourage it's use to create authentic assessments	Balancing authentic assessment and use of generative AI with academic integrity is a challenge

# What do awarding bodies say?

## Many point to JCQ's advice

The screenshot shows the top of the JCQ website. The header includes the JCQ logo (Joint Council for Qualifications) and a search icon. A navigation menu contains links for ABOUT JCQ, EXAMS OFFICE, EXAMINATION RESULTS, SUPPORT FOR EXAMS OFFICERS, MEDIA AND EVENTS, EXAMINATION SYSTEM, and CONTACT. The main content area features the title 'AI Use in Assessments: Protecting the Integrity of Qualifications' in yellow text, a 'Download page as PDF' button, and a breadcrumb trail: Home » Exams Office » Malpractice » AI Use in Assessments: Protecting the Integrity of Qualifications. Below this is the heading 'Artificial Intelligence (AI) Use in Assessments: Protecting the Integrity of Qualifications' and a paragraph of text: 'The JCQ AI Use in Assessments: Protecting the Integrity of Qualifications guidance is intended to provide teachers/assessors involved in delivering JCQ qualifications with the information they need to manage use of AI in assessments.' At the bottom, there is a row of logos for partner organizations: AQA (Questions matter), City & Guilds, CEA (Rewarding Learning), NCFE, OCR (Oxford Cambridge and RSA), Pearson, SQA, and wjec cbac.

**JCQ** Joint Council for Qualifications c1c SEARCH 🔍

[ABOUT JCQ](#) [EXAMS OFFICE](#) [EXAMINATION RESULTS](#) [SUPPORT FOR EXAMS OFFICERS](#) [MEDIA AND EVENTS](#) [EXAMINATION SYSTEM](#) [CONTACT](#)

### AI Use in Assessments: Protecting the Integrity of Qualifications

[Download page as PDF](#)

Home » Exams Office » Malpractice » AI Use in Assessments: Protecting the Integrity of Qualifications

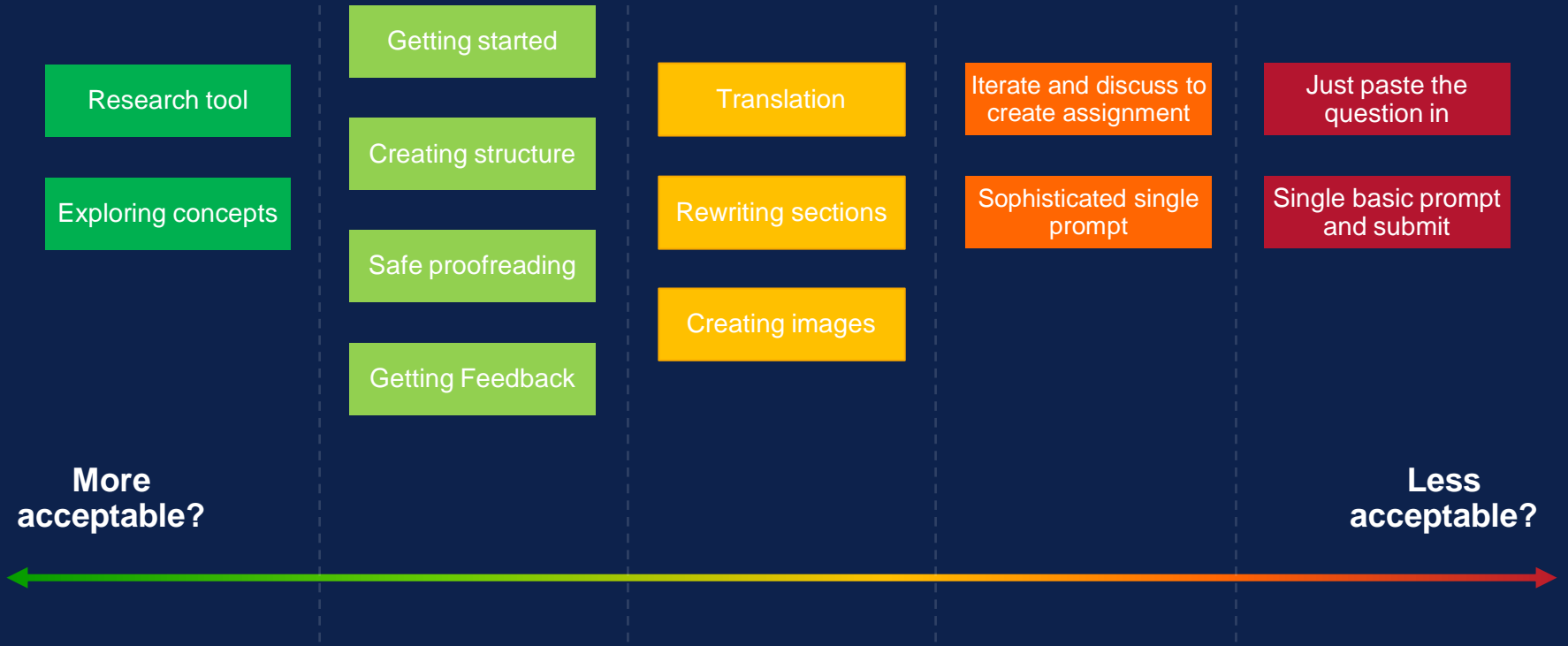
#### Artificial Intelligence (AI) Use in Assessments: Protecting the Integrity of Qualifications

The JCQ AI Use in Assessments: Protecting the Integrity of Qualifications guidance is intended to provide teachers/assessors involved in delivering JCQ qualifications with the information they need to manage use of AI in assessments.

**AQA** Questions matter **City & Guilds** **CEA** Rewarding Learning **NCFE** **OCR** Oxford Cambridge and RSA **Pearson** **SQA** **wjec cbac**

# Challenges: meeting students needs and expectations

# Ways students are using ChatGPT





# Student concerns



## Information literacy

Navigating trust and accuracy



## Data security

Safeguarding privacy and ownership



## Detectors

Plagiarism concerns and ambiguous guidelines



## Regulation

Striking a balance



## Staff use

Transparency and confidence



## Equity

Access and affordability



## Over reliance

Balancing AI and intellectual development



## Employability/jobs

Skills development and impact of automation

# Digital inequality

	Notes	Monthly cost
<b>Grammarly</b>	Including generative AI	£10
<b>Midjourney</b>	Image Creation	£8*
<b>ChatGPT Plus</b>	Latest GPT and plugins	£16*
<b>Writesonic</b>	AI powered writing tool	£13*
<b>Gamma</b>	Presentations	£13
<b>Scite.ai</b>	AI powered research assistant	£16*
<b>Total</b>		<b>£77</b>

**Opportunity: saving staff time**

# Jisc pilot example: Graide

Accelerating marking of STEM.

Initially created by University of Birmingham students.

The screenshot displays the Graide interface on a laptop screen. On the left is a feedback table with columns for 'Feedback' and 'Grade'. On the right is a question view for 'Polynomial differentiation (example) (Response)'. The question asks to differentiate  $\sqrt{x} \times x$ . The student's answer is  $\frac{d}{dx}(\sqrt{x} \times x) = \frac{d}{dx}(x^{\frac{3}{2}}) = \frac{3}{2}x^{\frac{1}{2}}$ . The interface shows two feedback entries: a '+0' for simplifying the question before differentiating, and a '+2' for the correct answer in the preferred form. A 'Mark submission as done' button is at the bottom right.

Feedback	Grade
Well done for simplifying the question before differentiating.	+0
Correct answer in the preferred form. Well done!	+2
Unnecessary simplification after the getting the correct answer. This form is also not preferred.	-0
Correct answer but not in the preferred form of $\frac{3}{2}x^{\frac{1}{2}}$	+1.5
$\frac{d}{dx}$ is an operator. It cannot equal something algebraic. You wouldn't write $\div = \sin(x)$ for example.	-0
You've written the wrong question.	-0
Error carried forward: Correct steps and preferred form from previous incorrect step.	+1
You should've simplified first before differentiating, instead of using the the product rule.	-0
You've differentiated incorrectly. You should bring down the power and reduce the power by one. This would give the answer as $\frac{3}{2}x^{\frac{1}{2}}$	-0
Incorrect answer. This should be $\frac{3}{2}x^{\frac{1}{2}}$	-0
You've simplified the answer to an incorrect form.	-0.5

Polynomial differentiation (example) (Response) Mark as done

Grade: 2 out of 2

Differentiate  $\sqrt{x} \times x$ .

$\frac{d}{dx}(\sqrt{x} \times x) = \frac{d}{dx}(x^{\frac{3}{2}}) = \frac{3}{2}x^{\frac{1}{2}}$

+0 Well done for simplifying the question before differentiating.

+2 Correct answer in the preferred form. Well done!

Add feedback for the whole answer

Add new feedback to table

Mark submission as done

# With ChatGPT, Copilot and Gemini

## Drafting ideas for lesson plans and other activities

To get the most out of ChatGPT you need to provide it with clear instructions on what you want to achieve. We'll look at some of examples of this now.

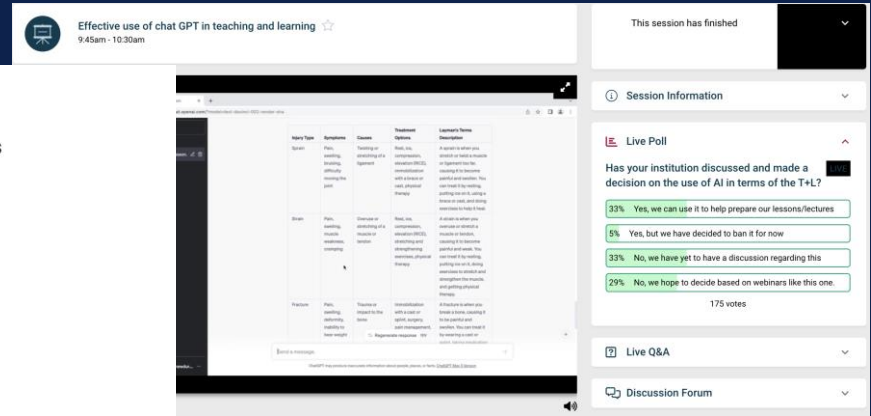
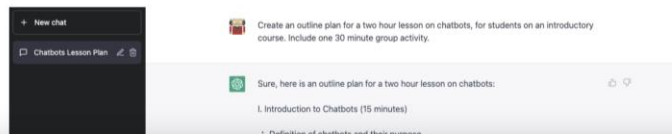
### A simple lesson plan

We'll start with a simple example. I want a lesson plan for a session about chatbots. The additional information I'm going to provide in the prompt is:

- The length of the lesson (2 hours)
- The level of the students ('introductory').
- Additional information – I want a 30-minute group activity.

**So the whole prompt is as follows:**

*Create an outline plan for a two hour lesson on chatbots, for students on an introductory course. Include one 30 minute group activity.*



# Teachermatic:

The screenshot displays the Teachermatic website interface. At the top, the logo 'TEACHERMATIC' is on the left, and navigation links for 'Home', 'FAQs', 'Pricing', 'About', 'Blog', 'Contact', and 'My Account' are in the center. A user profile 'Michael' with a UK flag icon is on the right. A search bar is located in the top right corner.

The main content area features a grid of eight tool cards, each with an icon, a title, a description, and a 'Use' button with a right arrow. Each card also has a heart icon in the top right corner and an information icon in the bottom left corner.

- Lesson Plan:** Create comprehensive and all inclusive lesson plans.
- Classroom questions:** Generate questions based on a topic using Blooms Taxonomy to check for learning.
- Multiple Choice Questions:** Effortlessly generate multiple-choice quizzes based on a few keywords.
- Learning Activities:** Generate suggested activities to use in class.
- Power Point Presentation:** Produces a Power Point Presentation based on the subject entered or the web site address entered.
- Lesson Objectives:** Generate a number of learning objectives for a subject or learning aim.
- Scheme of Work:** Generate a scheme of work based on a course title.
- SMART targets:** This will produce individual SMART targets for each of your learners or for your staff.

A left-hand navigation menu is visible, categorized into 'All Generators', 'Top Generators', 'Saved Results', 'Sector' (Primary, Secondary, Vocational, Higher Education), 'Teaching' (Planning, In-Class, Independent, Assessment), and 'Management' (Quality, Marketing). Each item in the menu has a 'New' badge.

# AI assisted marking and feedback

Generative AI is remarkably good at producing **plausible** marks and feedback for work.

We need to understand how it is best used (if at all) and produce clear guidance.

Without this, we are going to see misuse, either due to misunderstanding, or due to pressures and opportunity.

Percentage Score: 92%

The paper is well-organized, covers the main points thoroughly, and includes practical elements like instructions for building the glider-like paper airplane and tips for flying it. The inclusion of AI image generation and suggestions for future research adds depth to the investigation. With some minor improvements, such as citing specific academic references and providing a more detailed explanation of the AI image generation process, the paper could be even more robust. Overall, an excellent effort!

Regen

# Opportunity: new teaching and learning opportunities



# Pilot example: Bodyswaps



VR/AR to help with soft skills

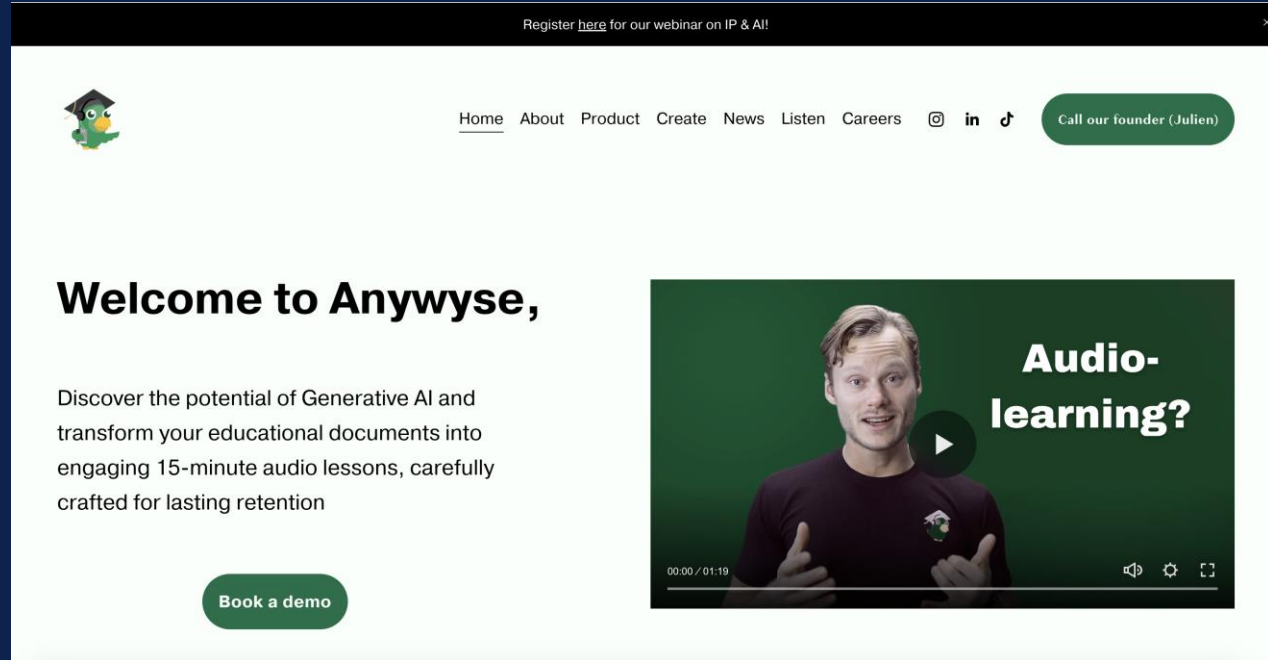


We're also see more and more  
of this in other spaces e.g.  
medical



# Pilot example: Anywyse

Audio learning resources, created with the assistance of AI.



The screenshot shows the homepage of Anywyse. At the top, there is a navigation bar with the text "Register [here](#) for our webinar on IP & AI!". Below this is the Anywyse logo, a green parrot wearing a graduation cap. To the right of the logo is a navigation menu with links for "Home", "About", "Product", "Create", "News", "Listen", and "Careers", followed by social media icons for Instagram, LinkedIn, and TikTok. A green button labeled "Call our founder (Julien)" is positioned to the right of the social media icons. The main content area features a large heading "Welcome to Anywyse," followed by a paragraph: "Discover the potential of Generative AI and transform your educational documents into engaging 15-minute audio lessons, carefully crafted for lasting retention". Below this text is a green button labeled "Book a demo". To the right of the text is a video player showing a man speaking, with the text "Audio-learning?" overlaid on the video. The video player includes a play button, a progress bar showing "00:00 / 01:19", and icons for volume, settings, and full screen.

# Some colleges are already doing exciting things...



Can you act as if you are Lady Macbeth? I'm going to ask you some questions.



Of course! I shall embody the character of Lady Macbeth to the best of my abilities. Please go ahead and ask your questions, and I shall respond in character.



So, Lady Macbeth, what did you think of Macduff?



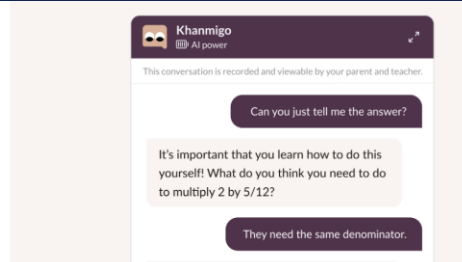
Ah, Macduff, a figure of great importance in our tragic tale. My dear interlocutor, let me confide in you the depths of my thoughts regarding Macduff. At first, I viewed him with suspicion and concern, for his loyalty to King Duncan and his subsequent departure from Macbeth's court aroused my apprehensions. However, as events unfolded, my perception of Macduff transformed.

Macduff proved himself to be a formidable adversary to my husband, Macbeth. His unwavering dedication to justice and his unyielding pursuit of righteousness set him apart from many others. While I may have initially perceived him as a threat to our ambitions, I eventually recognized his virtue and unyielding loyalty to his country.

# And there are some examples like Khanmigo that point to future opportunities...

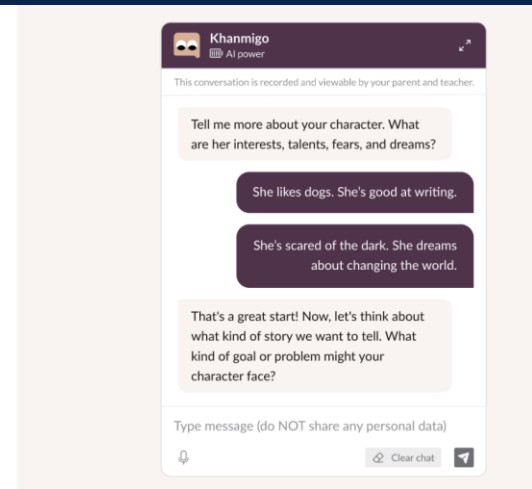
## Tutoring for all

By leveraging AI, we can bring the benefits of one-on-one tutoring—deep understanding, confidence, clarity, and empowerment—to all students.



## Unlocking creativity

Khanmigo mimics a writing coach by giving prompts and suggestions to move students forward as they write, debate, and collaborate in exciting new ways.



# Looking forward

# Taking a strategic approach to AI adoption....

## Approaching and understanding

- Interested in AI
- Understanding how it has impacted or is transforming other sectors

## Experimenting and exploring

- Experimentation and pilots within existing processes and with existing AI enabled tools.
- Data culture to support AI emerging
- Responsible AI processes established

## Operational

- Institutional AI principles established
- A systemic approach to staff AI skills and literacy
- Use of everyday AI institution wide.
- Task specific AI used for one or more processes across an organization eg chatbots for a specific purpose or adaptive learning systems

## Embedded

- AI embedded in strategy
- Data maturity allows AI to be considered for all new systems and processes
- Mature processes to manage the lifecycle of all AI products, including procurement and continuous monitoring

## Optimised /Transformed

- AI is supporting the delivery of learning that optimises opportunities and outcomes for all learners
- The right tasks are automated, freeing staff time for creativity and human interaction.

Data Maturity



# Will AI improved efficiency?

# Or just increased digital debt?

## 1. Digital debt is costing us innovation

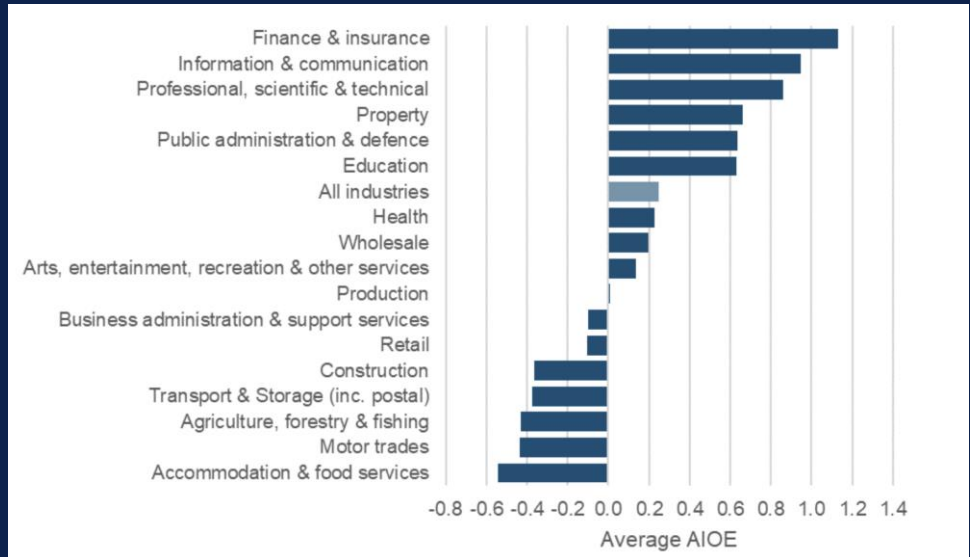
**We're all carrying digital debt:** the inflow of data, emails, meetings, and notifications has outpaced humans' ability to process it all. And the pace of work is only intensifying. Everything feels important, so we spend our workdays trying to get out of the red. Nearly 2 in 3 people (64%) say they struggle with having the time and energy to do their job—and those people are 3.5x more likely to also struggle with innovation and strategic thinking. And nearly 2 in 3 leaders (60%) are already feeling the effects, saying that a lack of innovation or breakthrough ideas on their teams is a concern. There are only so many minutes in the day—and every minute we spend managing this digital debt is a minute not spent on the creative work that leads to innovation. In a world where creativity is the new productivity, digital debt is more than an inconvenience—it's impacting business.

<https://www.microsoft.com/en-us/worklab/work-trend-index/will-ai-fix-work>

# Are we preparing our students?

- It's estimated 10-30% of jobs could be automated by AI
- The impact is not evenly distributed
- The skills our students need will change significantly

AI Exposure from 'The impact of AI on UK jobs and training' (DfE – England)





# Activity

Work in groups to map out your hopes for education and how/where AI can best support them. What support will you need to achieve them?

- Near term
- Mid term
- Long term

Feedback in groups – 10 mins

# Contact details

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